

## PATENT ABSTRACTS OF JAPAN

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(54) VARIABLE PRIZE AWARDING DEVICE FOR PINBALL GAME MACHINE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a variable prize awarding device for pinball game machine which can reduce the labor in design and development to be performed anew facilitate the assembly works and does not narrow the degree of freedom in designing of the function to be added.

SOLUTION: A door member 7 is provided with a ball hole 42 and arranged so that it takes two positions i.e. the first position not accepting game balls by shutting the hole 42 and the second position easy to admit balls with the hole opened and a drive motive for the door member and a ball sensor to sense ball having won are mounted behind the mounting board 41 installed on the game board and a ball flow cavity forming member 43 consisting of a hollow framing on unit system is fastened and a cover 44 is attached to the rear surface of this cavity forming member 43 so that its rear surface opening is blocked.

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CLAIMS

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[Claim(s)]

[Claim 1]A mounting board which a ball inflow opening is established and is attached to the game board surfaceThe 1st state where it is attached to a mounting board to the above-mentioned ball inflow opening in the state which can be opened and closedclose a ball inflow openingand a game ball is not receivedIt is the hollow frame shape which a door member convertible into the 2nd state of opening and being easy to receive a game balland a front face and a rear face opened wideIt has a centrum which a front opening is open for free passage with the above-mentioned ball inflow openingand forms a ball inflow hollow partA ball inflow hollow part formation member which equipped a peripheral surface portion with a ball detector which detects a game ball which flowed and won a prize in a driving source for door members which carries out the opening-and-closing drive of the above-mentioned door memberand a ball inflow hollow partand carried out unitizationWhile making a ball inflow opening of a cover member attached in the state of blockading a rear opening part at the back of this ball inflow hollow part formation memberand a mounting board\*\* and othersopen a front opening for free passage and attaching a ball inflow hollow part formation member firmly behind a mounting boardA fluctuation winning device of a pinball machine which attaches a cover member firmly to the back of this ball inflow hollow part formation memberand blockades a rear opening part of a ball inflow hollow part formation member.

[Claim 2]A fluctuation winning device of the pinball machine according to claim 1wherein said cover member equips with a decoration member a field which attends a ball inflow hollow part.

[Claim 3]A fluctuation winning device of the pinball machine according to claim 1 or 2 characterized by comprising the following.

Said ball inflow hollow part formation members are two or more kinds of ball prize ports to an inside.

A ball flow regulation member which adds regulation to flowing down of a ball in which said cover member has flowed into a field which attends a ball inflow

hollow part from a ball inflow opening.

[Claim 4]A fluctuation winning device of the pinball machine according to claim 3wherein said ball flow regulation member is provided with an inside of a ball flow direction proposal which turns a ball to a specific ball prize port and to which it shows a ball.

[Claim 5]A fluctuation winning device of the pinball machine according to any one of claims 1 to 4wherein said cover member is provided with an information display device which carries out the visible display of the information generated by field which attends a ball inflow hollow part based on a signal from a ball detector.

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#### DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention provides a door member to the ball inflow opening of a mounting board in the state which can be opened and closedand relates to the fluctuation winning device in a pachinko game machine convertible into the 1st state where close a ball inflow opening by this door memberand a game ball is not receivedand the 2nd state of opening and being easy to receive a game ball etc.

[0002]

[Description of the Prior Art]A fluctuation winning device is also called an attacker and is used abundantly at pinball machinessuch as a pachinko game machine. Inside the alcove (ball inflow hollow part) formed in the back side of this kind of attacker's mounting boardThe continuation prize port which the right to continue what is called a great success game will generate if the game ball which flowed entersthe game ball which provided the general prize mouth make the game ball

which did not go into this continuation prize port win a prize ofor flowed -- a general prize mouth -- or the flow regulation member etc. which promote winning a prize of a continuation prize port or are restricted temporarily are provided. The solenoid which opens and closes a door member is provided or the decorative lamp etc. were formed in the back side of the alcove and the ball detector for counting the number of the game balls which won a prize of the ball detector which detects the game ball which won a prize of a continuation prize port inside or an attacker is formed in it. And if the models of pachinko game machine differ it not only changes the design of a mounting board for every model but it will change the position of a continuation prize port and a general prize mouth.

[0003]

[Problem(s) to be Solved by the Invention] However the time and the labor which a new design takes became great and it had become the big load of development business to design the whole attackers such as not only a mounting board but an alcove and mounting structure of a solenoid from the beginning whenever models differ.

[0004] What is done for the new construction meter of the attacker for every model After the load of design development not only becomes large but attaches an alcove in an assembly process attach a solenoid or in other attackers work sequence -- an alcove cannot be attached unless it comes out of from [ after attaching a solenoid ] -- differs and it has become a cause which falls working efficiency.

[0005] Since every model only differs in a surface design and is only the same function on the other hand when the new construction meter only of the mounting board is carried out and it tries to attain communalization of other parts it becomes difficult to give change to a game a game person gets bored easily by this and the interest of a game may be reduced.

[0006] Then this invention can lighten the labor at the time of newly carrying out design development and tends to attain facilitating of assembly operation and an object of this invention is to provide the fluctuation winning device of the pinball

machine which does not narrow flexibility of a design of the function moreover added.

[0007]

[Means for Solving the Problem]This invention was proposed in order to attain the above-mentioned purposeand the invention according to claim 1A mounting board which a ball inflow opening is established and is attached to the game board surfaceThe 1st state where it is attached to a mounting board to the above-mentioned ball inflow opening in the state which can be opened and closedclose a ball inflow openingand a game ball is not receivedIt is the hollow frame shape which a door member convertible into the 2nd state of opening and being easy to receive a game balland a front face and a rear face opened widelt has a centrum which a front opening is open for free passage with the above-mentioned ball inflow openingand forms a ball inflow hollow partA ball inflow hollow part formation member which equipped a peripheral surface portion with a ball detector which detects a game ball which flowed and won a prize in a driving source for door members which carries out the opening-and-closing drive of the above-mentioned door memberand a ball inflow hollow partand carried out unitizationWhile making a ball inflow opening of a cover member attached in the state of blockading a rear opening part at the back of this ball inflow hollow part formation memberand a mounting board\*\* and othersopen a front opening for free passage and attaching a ball inflow hollow part formation member firmly behind a mounting boardIt is a fluctuation winning device of a pinball machine which attaches a cover member firmly to the back of this ball inflow hollow part formation memberand blockades a rear opening part of a ball inflow hollow part formation member.

[0008]The invention according to claim 2 is a fluctuation winning device of a pinball machine equipping with a decoration member a field which faces said cover member a ball inflow hollow part in addition to composition of claim 1.

[0009]The invention according to claim 3 in composition of claim 1 or claim 2 in addition said ball inflow hollow part formation memberIt is a fluctuation winning

device of a pinball machine wherein it equipped an inside with two or more kinds of ball prize ports and said cover member is provided with a ball flow regulation member which adds regulation to flowing down of a ball which has flowed into a field which attends a ball inflow hollow part from a ball inflow opening.

[0010]The invention according to claim 4 is a fluctuation winning device of a pinball machine provided with an inside of a ball flow direction proposal to which said ball flow regulation member turns a ball to a specific ball prize port in addition to composition of claim 3 and it shows a ball.

[0011]The invention according to claim 5 is a fluctuation winning device of a pinball machine provided with an information display device which carries out the visible display of the information generated by field which faces said cover member a ball inflow hollow part in addition to one composition of claim 1 to claims 4 based on a signal from a ball detector.

[0012]

[Embodiment of the Invention]Hereafter an embodiment of the invention is described based on a drawing. Drawing 1 is a front view of the game board of the pachinko game machine which is a typical pinball machine. The game area 3 divided by the partition members 2 such as a guide rail is formed in the surface of this game board 1 this game area 3 -- mostly the start opening 5 under this variable display device 4 for the variable display device 4 in the center. Arrange the fluctuation winning device 6 under the start opening 5 and while the game ball which carried out the from cartridge with the ball launching device hits an obstacle nail from the upper part of the game area 3 and changes a flow direction it flows down. If a prize of the above-mentioned start opening 5 is won in the middle of flowing down it constitutes so that a variable display game may be started with the variable display device 4 according to the signal from the ball detector which detected this winning ball.

[0013]When the mode stopped after carrying out the variable display of the identification information of triple figures and carrying out specified time elapse for example at the speed which cannot be recognized visually stops in a prize mode

(for example777 set up beforehand)a variable display game is becoming it a great successand shifts to a great success game.

[0014]This great success gamelt is a game performed to a game person in the state (state of being easy to gain awarded balls) of being easy to give profitsby changing into the 2nd state of opening the door member 7 from the 1st (a prize is not won) state where close the door member 7 of the fluctuation winning device 6and a game ball is not receivedand being easy to receive a game ball (it is easy to win a prize)The 2nd state considers the period until predetermined time (for examplefor 28 seconds) passesor until the game ball of a predetermined number (for exampleten pieces) wins a prize as one roundIn the round concernedon condition that a game ball wins a prize of the continuation prize port (after-mentioned) in the fluctuation winning device 6it is continuable to a predetermined round number (16 rounds).

[0015]The above-mentioned variable display game and great success game are performed under control of the game board control device formed in the back side of the pachinko game machine. IC13 for accessories in which this game board control device contained RAM12 which performs the memory etc. of CPU11 which performs game control etc.and data as shown in drawing 2ROM14 which stores the control program etc.and the frequency divider 15 which carry out dividing of the clock signal and to which reset interruption of CPU11 is appliedThe power supply circuit 16 which supplies a power supply required for IC13 grade for accessoriesand the low pass filter 17 which accepts a variety-of-information signalThe buffer gate 18 which outputs the signal from the low pass filter 17 to IC13 for accessories via the bus BThe output port 19 which receives the signal from IC13 for accessories via the bus Blt is constituted by the voice generation part etc. which consist of the driver 20 which drives and outputs the control signal inputted via the output port 19the sound generator 21 and the amplifier 22and the loudspeaker 23and generate a sound effect required for a game.

[0016]The signal from the emission control equipment 26the \*\* figure starting

switch 27 the count switch 28 and continuous switch 29 grade is inputted into the low pass filter 17. From the driver 20. A control signal is outputted to a decorative lamp and external information terminal [ which sends and receives information between the display control 31 and the controlling device 32 which perform display control of the variable display device 4 ] 33 fluctuation winning device 6\*\* figure start memory indicator 34 and LED 35 the detection result display device 86 the emission control equipment 26 etc.

[0017] Next the fluctuation winning device 6 is explained. The mounting board 41 attached to the surface of the game board 1 as this fluctuation winning device 6 is shown in drawing 3 The door member 7 attached to the mounting board 41 to the ball inflow opening 42 established by the mounting board 41 in the state which can be opened and closed. The ball inflow hollow part formation member 43 which is constituted as a hollow frame body which the front face and the rear face opened wide and is attached to the back side of the mounting board 41. It comprises the ball detector 46 etc. which detect the cover member 44 which plugs up the rear face of this ball inflow hollow part formation member 43. The solenoid 45 as a driving source for door members which opens and closes the above-mentioned door member 7 and the game ball which flowed and won a prize in the ball inflow hollow part formation member 43.

[0018] The mounting board 41 is constituted by the plate made of a synthetic resin and is attached firmly by fasteners such as a wood screw to the surface of the game board 5 for example. The door member 7 is a plate piece of oblong rectangular shape is attached in the rotating shaft by which formed protruding was carried out to the lower end right and left respectively enabling free opening and closing and can be changed into a closed state (the 1st state) and an opened state (the 2nd state). And the thing of the design from which these mounting boards 41 and door members 7 differ according to the kind of pachinko game machine is provided.

[0019] As shown in drawing 4 the ball inflow hollow part formation member 43 forms the alcove 47 (ball inflow hollow part) with the cover member 44 and it is

attached firmly to the back side of the mounting board 41 from back so that the front-face side opening may be open for free passage to the ball inflow opening 42 of the mounting board 41. And the peripheral face flank (right side part of drawing 3) of this ball inflow hollow part formation member 43 is equipped with the above-mentioned solenoid 45. And at the inner skin pars basilaris ossis occipitalis of this ball inflow hollow part formation member 43. The ball guiding member 50 of the mountain shape which sifts out the game ball which flowed into right-hand side and the alcove 47 the general prize mouth 49 make the game ball which did not go into the continuation prize port 48 the continuation prize port 48 which the right to continue a great success game generates on left-hand side win a prize of is mostly formed in the center. The lower part of the peripheral face of the ball inflow hollow part formation member 43 is equipped with the above-mentioned ball detector 46. This ball detector 46 is constituted by the count switch 52 grade which counts the game ball which won a prize of the continuous switch 51 which detects in more detail the game ball which won a prize of the continuation prize port 48 or the fluctuation winning device 6. That is this ball inflow hollow part formation member 43 is what equipped with and carried out unitization of the common composition irrespective of the kind of pachinko game machine.

[0020]The parts attached to the ball inflow hollow part formation member 43 such as the solenoid 45 and the ball detector 46 are allocated in the state of falling within the range of the ball inflow hollow part formation member 43 order width. Thereby it becomes difficult to interfere even if the design variation of the mounting board 41 or the cover member 44 is carried out.

[0021]The cover member 44 is constituted as a member which blockades the rear-face side opening of the ball inflow hollow part formation member 43 and a design variation is variously possible for it according to the kind of pachinko game machine. In this embodiment it is the rear-face side opening of the ball inflow hollow part formation member 43 and a plate of the rectangular shape which is identical shape mostly and the fitting part 53 with the ball inflow hollow

part formation member 43 is formed in the four corners. And this cover member 44 is attached firmly to the back of the ball inflow hollow part formation member 43 removable by firm attachment implements such as a screw and forms the alcove 47 (refer to drawing 4).

[0022] And in the fluctuation winning device 6 which has the above composition. Since this ball inflow hollow part formation member 43 is further attached firmly to each of the mounting board 41 and the cover member 44 removable using the ball inflow hollow part formation member 43 which carried out unitization of the composition common irrespective of the kind of pachinko game machine this ball inflow hollow part formation member 43 can be used as common parts. This ball inflow hollow part formation member 43 can be removed from the discarded pachinko game machine and it can be used for other pachinko game machines. Therefore since it is recyclable about life time unpassed parts while mass production is easily made by having communalized parts the cost cut of a pachinko game machine can be aimed at.

[0023] By the way although the cover member 44 in the above-mentioned embodiment (a 1st embodiment) was constituted by the plate of mere rectangular shape it is possible to add various functions about this cover member 44.

Hereafter the mode of the cover member 44 is explained.

[0024] Drawing 5 and drawing 6 are the figures explaining a 2nd embodiment of a cover member and it is a perspective view drawing 5 explains an exploded perspective view and drawing 6 explains a state with a group to be. According to this 2nd embodiment it has the feature at the point that the cover member 61 is provided with the decoration member.

[0025] As shown in drawing 5 this cover member 61 is constituted by translucent resin and specifically the fitting part 62 with the ball inflow hollow part formation member 43 serves as a rectangular shape resin board of the opalescence formed in four corners. The surface of this cover member 61 is an ornamental face on which the seal 63 which functions as a decoration member is stuck and the boss 65 for attaching a lamp and LED substrate 64 protrudes on the back

towards back. And the design of the translucency of a charactera figureetc. is drawn on the seal 63. In this embodimentthe "V" mark which specifies "LUKKY"the message "!!"and the position of the continuation prize port 48 is pierced. A decoration member is not limited to such a seal 63may form a design in an ornamental face directly by coloringand may form unevenness in an ornamental face.

[0026]A lamp and LED substrate 64 are substrates for supporting the light source for carrying out the luminosity of the design of the translucency provided in the seal 63and is attached to the back of the cover member 61 from back. And the lamp and LED substrate 64 in this embodiment are a printed-circuit board of oblong rectangular shape. And the screwhole 67 for inserting the set screw 66 in the four corners of this lamp and LED substrate 64 is established. LED68 of plurality (drawing 5 five pieces) is attached to the surface upper row along with a transverse directionand the lamp 69 of the couple is attached to the surface lower berth.

[0027]As shown in drawing 6the cover member 61 which attached the lamp and LED substrate 64 to the back is attached firmly to the rear-face side opening so that the above-mentioned ornamental face may attend the hollow part of the ball inflow hollow part formation member 43. And when it is becoming it a great success by a pachinko gameluminescence of LED68 or the lamp 69 is controlled in accordance with execution of a great success gameand the interest of a game is raised.

[0028]Thusin this compositionsince the ornamental function was given to the cover member 61 made removable at the ball inflow hollow part formation member 43this cover member 61 is only exchanged and the ornament mode of the fluctuation winning device 6 can be changed. And it can respond to various ornament modes by preparing beforehand two or more sorts of cover members 61 according to the ornament modeand choosing the cover member 61 at the time of with the group in a factory. It can respond to various ornament modes easily by preparing two or more sorts of seals 63 by constituting a decoration

member with the seal 63 like this embodiment. Since the seal 63 has little \*\*there may be few spaces which keep stock. Therefore fine correspondence based on a request of a pachinko game store and a game person can be performed by low cost comparatively easily. On the other hand as a pachinko game store it can perform giving originality to an ornament mode etc. and differentiation with other pachinko game stores can be realized by low cost comparatively easily. Since one model has various ornament modes as a game person the new interest based on this ornament mode is acquired.

[0029] Drawing 7 and drawing 8 are the figures explaining a 3rd embodiment of a cover member and it is a perspective view. drawing 7 explains an exploded perspective view and drawing 8 explains a state with a group to be. According to this 3rd embodiment it has the feature at the point provided with the ball flow regulation member which adds regulation to flowing down of the game ball which flowed from the ball inflow opening 42 of the mounting board 41.

[0030] As shown in drawing 7 specifically this cover member 71 it has mostly in the center the ball flow regulation member 72 and the opening 73 which can insert in this ball flow regulation member 72 by the shape of approximately of the same type it is the rectangular shape plate by which the fitting part 74 with the ball inflow hollow part formation member 43 was formed in four corners and the regulatory apparatus fitting part 76 equipped with the solenoid 77 of the flow direction regulatory apparatus 75 protrudes on the back back.

[0031] This flow direction regulatory apparatus 75 comprises the ball flow regulation member 72 and the solenoid 77 by which the plunger was connected to this ball flow regulation member 72. And the ball flow regulation member 72 of this flow direction regulatory apparatus 75 As it is the wedge-shaped member which equipped the upper part with the slideway 78 (inside of a ball flow direction proposal) which carried out the declivity rightward while a standing wall is provided in a left end and shown in drawing 8 it is attached so that the alcove 79 formed from the opening 73 provided in the cover member 71 of the ball inflow hollow part formation member 43 and the cover member 71 may be attended.

The attached ball flow regulation member 72 moves to a cross direction according to the excited state of the solenoid 77 and appears frequently in the alcove 79 (ball inflow hollow part) through the opening 73. If it is at the time of projection this ball flow regulation member 72 is located above the ball guiding member 50 and the game ball which flowed in the alcove 79 is turned to the right 49 i.e. a general prize mouth and it guides it.

[0032] Although the ball flow regulation member 72 in the above-mentioned embodiment illustrated electrically the thing in which frequent appearance control into the alcove 79 is possible by the solenoid 77 the ball flow regulation member 72 may be formed in the front face (namely field facing the alcove 79) of the cover member 71 fixed for example.

[0033] Thus since the ball flow regulation member 72 which adds regulation to flowing down of the game ball which has flowed from the ball inflow opening 42 of the mounting board 41 was formed in the field which attends the ball inflow hollow part (alcove 79) of the cover member 71 in this composition Change can be given to movement of the game ball in a ball inflow hollow part about movement of the game ball in a ball inflow hollow part the holding time in a ball inflow hollow part can be made to be able to extend or irregularity can be given to moving trucking and game nature can be improved. In the composition which formed the wedge-shaped ball flow regulation member 72 like this embodiment especially so that frequent appearance was possible game nature can be improved further.

[0034] Since it constituted so that a game ball might be turned to a specific ball prize port (general prize mouth 49) and might be guided by projection of the wedge-shaped ball flow regulation member 72 the winning-a-prize probability for every prize port of two or more prize ports provided in the ball inflow hollow part can be changed and change can be given to a game.

[0035] Drawing 9 and drawing 10 are the figures explaining a 4th embodiment of a cover member and it is a perspective view drawing 9 explains an exploded perspective view and drawing 10 explains a state with a group to be. According

to this 4th embodiment it has the feature at the point provided with the information display device which carries out the visible display of the information generated based on the signal from the ball detector 46.

[0036]As shown in drawing 9 specifically this cover member 81 is constituted by the rectangular shape resin board by which the fitting part 82 with the ball inflow hollow part formation member 43 was formed in four corners for example. The opening 83 for the round number display of a great success game and the opening 84 for a count number display are established along with width by the lower-berth rightist inclinations of this cover member 81 and the character of the "round" and the "count" is formed in the upper limb of each openings 83 and 84 by printing etc. A light transmission field is formed in the lower-berth left with an opening translucent resin etc. and the seal 85 is stuck on it so that this light transmission field may be covered from the front. In this embodiment the "V" mark of the translucency which specifies the position of the continuation prize port 48 is formed in this seal 85. At the back of this cover member 81 the boss 87 for attaching the detection result display device 86 is setting up towards back.

[0037]The detection result display device 86 functions as an information display device which carries out the visible display of the information generated based on the signal from the ball detector 46 and comprises the numerical indicator 89 and lamp 90 grade which are attached to the surface of a lamp and LED substrate 88 and this lamp and LED substrate 88. A lamp and LED substrate 88 are constituted by the printed-circuit board of oblong rectangular shape etc. and the screw hole 91 for inserting a set screw in the four corners is established. LED (light emitting diode) etc. of the display for indication in which the numerical indicator 89 has possible digital display for example seven segments are used and two the round number display for indication 92 and the count number display for indication 93 are provided. As long as an information display is possible for a liquid crystal display etc. about this numerical indicator 89 the thing of what kind of composition may be used. And as shown in drawing 10 each displays for indication 92 and 93 are attached along with width so that a display surface may

attend the double door mouths 83 and 84 of the cover member 81 in the lower-berth rightist inclinations of a lamp and LED substrate 88. The lamp 90 is the lower-berth left and is allocated behind the seal 85.

[0038]And the round number display for indication 92 displays the round number of a great success gameand the count number display for indication 93 displays the number of the game balls which won a prize of a fluctuation winning device. That iseach displays for indication 92 and 93 carry out the visible display of the round number information and winning ball number information which are generated based on the signal from the continuous switch 51 or the count switch 52 which is the ball detector 46. Luminescence is controlled according to the signal from the continuous switch 51and the lamp 90 is turned on at the time of winning a prize on the continuous switch 51.

[0039]To thusthe field which attends the ball inflow hollow part (alcove 94) of the cover member 81 in this embodiment. the information (round number information.) generated based on the signal from the ball detector 46 (the continuous switch 51count switch 52) which detects the game ball which won a prize of the fluctuation winning device 6 Since it has the information display device (the round number display for indication 92the count number display for indication 93) which carries out the visible display of the winning ball number informationVisual recognition of a winning-a-prize statea round numberetc. to the continuation prize port 48 in a great success game is attained with the fluctuation winning device 6and the state of a great success game can be recognizedwithout turning a look to othersseeing the situation of winning a prize of the game ball to the fluctuation winning device 6 most worried in a great success game.

Thereforea game person can be concentrated on a great success game. Since informationincluding the winning-a-prize state to the continuation prize port 48a round numberetc.is displayed with the fluctuation winning device 6the variable display device 4 can be made to display other information during [ this ] the great success game in this embodiment. Thereforea game person's interest can be raised further.

[0040]

[Effect of the Invention]According to this inventionthe following effect is done so as explained above. Namelythe mounting board which according to the invention according to claim 1 a ball inflow opening is established and is attached to the game board surfaceThe 1st state where it is attached to a mounting board to the above-mentioned ball inflow opening in the state which can be opened and closedclose a ball inflow openingand a game ball is not receivedIt is the hollow frame shape which the door member convertible into the 2nd state of opening and being easy to receive a game balland a front face and a rear face opened wideit has a centrum which a front opening is open for free passage with the above-mentioned ball inflow openingand forms a ball inflow hollow partThe ball inflow hollow part formation member which equipped the peripheral surface portion with the ball detector which detects the game ball which flowed and won a prize in the driving source for door members which carries out the opening-and-closing drive of the above-mentioned door memberand the ball inflow hollow partand carried out unitizationWhile making the ball inflow opening of the cover member attached in the state of blockading a rear opening part at the back of this ball inflow hollow part formation memberand the mounting board\*\* and othersopen a front opening for free passage and attaching a ball inflow hollow part formation member firmly behind a mounting boardSince the cover member was attached firmly to the back of this ball inflow hollow part formation member and the rear opening part of the ball inflow hollow part formation member was blockadeda ball inflow hollow part formation member can be used as common parts. A ball inflow hollow part formation member can be removed from the game machine of which it laid on the shelfand it can divert to other game machines. Thereforesince it is recyclable about life time unpassed parts while mass production is easily made by having communalized partsthe cost cut of a game machine can be aimed at.

[0041]According to the invention according to claim 2since said cover member equipped with the decoration member the field which attends a ball inflow hollow

partit only exchanges cover members and can change the ornament mode of a fluctuation winning device into it. And it can respond to various ornament modes by preparing beforehand two or more sorts of cover members according to the ornament modeand choosing a cover member at the time of with the group in a factory. Thereforefine correspondence based on a request of a game store and a game person can be performed by low cost comparatively easily. On the other hand as a game storeit can perform giving originality to an ornament mode etc.and differentiation with other game stores can be realized by low cost comparatively easily. Since one model has various ornament modes as a game personthe new interest based on this ornament mode is acquired.

[0042]According to the invention according to claim 3said ball inflow hollow part formation memberEquip an inside with two or more kinds of ball prize portsand said cover memberSince it had the ball flow regulation member which adds regulation to flowing down of the ball which has flowed into the field which attends a ball inflow hollow part from the ball inflow openingChange can be given to movement of the game ball in a ball inflow hollow partabout movement of the game ball in a ball inflow hollow partthe holding time in a ball inflow hollow part can be made to be able to extendor irregularity can be given to moving truckingand game nature can be improved.

[0043]According to the invention according to claim 4since said ball flow regulation member was provided with the inside of a ball flow direction proposal which turns a ball to a specific ball prize port and to which it shows a ballit can change the winning-a-prize probability for every prize port of two or more prize ports provided in the ball inflow hollow partand can give change to a game.

[0044]According to the invention according to claim 5said cover memberSince it had the information display device which carries out the visible display of the information generated by the field which attends a ball inflow hollow part based on the signal from a ball detector/Visual recognition of a winning-a-prize statea round numberetc. to a specific prize port in a great success game is attained with a fluctuation winning deviceand the state of a great success game can be

recognized without turning a look to others seeing the situation of winning a prize of the game ball to the fluctuation winning device most worried in a great success game. Therefore a game person can be concentrated on a great success game.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is a front view of the game board of a pachinko game machine.

[Drawing 2] It is a block diagram explaining the composition of a game board control device.

[Drawing 3] It is an exploded perspective view explaining the composition of a fluctuation winning device.

[Drawing 4] It is a perspective view explaining the state with a group of a ball inflow hollow part formation member and a cover member.

[Drawing 5] It is an exploded perspective view explaining a 2nd embodiment of a cover member.

[Drawing 6] It is a perspective view which similarly illustrates the state with a group of a cover member.

[Drawing 7] It is an exploded perspective view explaining a 3rd embodiment of a cover member.

[Drawing 8] It is a perspective view which similarly illustrates the state with a group of a cover member.

[Drawing 9] It is an exploded perspective view explaining a 4th embodiment of a cover member.

[Drawing 10] It is a perspective view which similarly illustrates the state with a group of a cover member.

[Description of Notations]

1 Game board

2 Partition member

- 3 Game area
- 4 Variable display device
- 5 Start opening
- 6 Fluctuation winning device
- 7 Door member
- 11 CPU
- 12 RAM
- 13 IC for accessories
- 14 ROM
- 15 Frequency divider
- 16 Power supply circuit
- 17 Low pass filter
- 18 Buffer gate
- 19 Output port
- 20 Driver
- 21 Sound generator
- 22 Amplifier
- 23 Loudspeaker
- 26 Emission control equipment
- 27 \*\* figure starting switch
- 28 Count switch
- 29 Continuous switch
- 31 Display control
- 32 Controlling device
- 33 External information terminal
- 34 \*\* figure start memory display for indication
- 35 A decorative lamp and LED
- 41 Mounting board
- 42 Ball inflow opening
- 43 Ball inflow hollow part formation member

- 44 Cover member
- 45 Solenoid
- 46 Ball detector
- 47 Alcove
- 48 Continuation prize port
- 49 General prize mouth
- 50 Ball guiding member
- 51 Continuous switch
- 52 Count switch
- 53 Fitting part
- 61 Cover member
- 62 Fitting part
- 63 Seal
- 64 A lamp and a LED substrate
- 65 Boss
- 66 Set screw
- 67 Screwhole
- 68 LED
- 69 Lamp
- 71 Cover member
- 72 Ball flow regulation member
- 73 Opening
- 74 Fitting part
- 75 Flow direction regulatory apparatus
- 76 Regulatory apparatus fitting part
- 77 Solenoid
- 78 Slideway
- 79 Alcove
- 81 Cover member
- 82 Fitting part

- 83 The opening for a round number display
- 84 The opening for a count number display
- 85 Seal
- 86 Detection result display device
- 87 Boss
- 88 A lamp and a LED substrate
- 89 Numerical indicator
- 90 Lamp
- 91 Screwhole
- 92 Round number display for indication
- 93 Count number display for indication
- 94 Alcove

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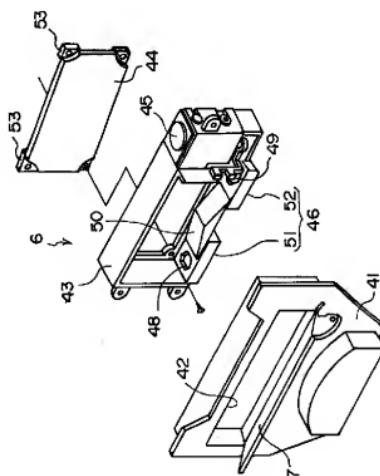
(74)代理人 弁理士 津久井 照保

(54)【発明の名称】 弾球遊技機の変動入賞装置

(57)【要約】

【課題】 新たに設計開発する際の労力を軽減できることで、組立作業の容易化を図り易く、しかも附加する機能の設計の自由度を狭くすることのない弾球遊技機の変動入賞装置を提供する。

【解決手段】 球流入開口部42を開設するとともに球流入開口部を開じて遊技球を受け入れない第1状態と開いて遊技球を受け入れ易い第2状態とに変換可能な扉部材7が設けられ遊技盤表面に取り付けられる取付基板41の後方に、扉部材用駆動源と入賞した遊技球を検出する球検出器とを装着してユニット化した中空枠状の球流入空部形成部材43を止着し、球流入空部形成部材の背面にカバー部材44を止着して球流入空部形成部材の前面開口部を閉塞した。



## 【特許請求の範囲】

【請求項1】 球流入開口部が開設され、遊技盤表面に取り付けられる取付基板と、

上記球流入開口部に対して開閉可能な状態で取付基板に取り付けられ、球流入開口部を閉じて遊技球を受け入れない第1状態と、開いて遊技球を受け入れ易い第2状態とに変換可能な扉部材と、

前面と後面が開放した中空枠状であって、前面開口部が上記球流入開口部と連通して球流入空部を形成する中空部を有し、上記扉部材を閉鎖駆動する扉部材用駆動源と球流入空部内に流入して入賞した遊技球を検出する球検出器とを周面部分に装着してユニット化した球流入空部形成部材と、

該球流入空部形成部材の背面に後面開口部を閉塞する状態で取り付けられるカバー部材と、からなり、取付基板の球流入開口部に前面開口部を連通させて球流入空部形成部材を取付基板の後方に止着するとともに、該球流入空部形成部材の背面にカバー部材を止着して球流入空部形成部材の後面開口部を閉塞してなる弾球遊技機の変動入賞装置。

【請求項2】 前記カバー部材は、球流入空部に臨む面に、装飾部材を備えたことを特徴とする請求項1に記載の弾球遊技機の変動入賞装置。

【請求項3】 前記球流入空部形成部材は、内部に複数種類の球入賞口を備え、

前記カバー部材は、球流入空部に臨む面に、球流入開口部から流入してきた球の流下に規制を加える球流下規制部材を備えたことを特徴とする請求項1または2記載の弾球遊技機の変動入賞装置。

【請求項4】 前記球流下規制部材は、球を特定の球入賞口に向けて球を案内する球流下方向案内部を備えたことを特徴とする請求項3に記載の弾球遊技機の変動入賞装置。

【請求項5】 前記カバー部材は、球流入空部に臨む面に、球検出器からの信号に基づいて生成される情報を可視表示する情報表示装置を備えたことを特徴とする請求項1から4のいずれかに記載の弾球遊技機の変動入賞装置。

## 【発明の詳細な説明】

## 【0001】

【発明の属する技術分野】 本発明は、取付基板の球流入開口部に対して開閉可能な状態で扉部材を設け、この扉部材により球流入開口部を閉じて遊技球を受け入れない第1状態と、開いて遊技球を受け入れ易い第2状態とに変換可能なバチンコ遊技機等における変動入賞装置に関するものである。

## 【0002】

【従来の技術】 変動入賞装置は、アッカーモード呼ばれてバチンコ遊技機等の弾球遊技機に多用されている。この類のアッカーモードの取付基板の裏側に形成した凹室

(流入空部)の内部には、流入した遊技球が入ると所謂大当りゲームを継続する権利が発生する継続入賞口や、この継続入賞口に入らなかった遊技球を入賞させる一般入賞口を設けたり、流入した遊技球が一般入賞口に、或は継続入賞口に入賞することを促したり、一時的に制限したりする流下規制部材などを設けたりする。また、凹室の裏側には、扉部材を開閉するソレノイドを設けたり、装飾ランプ等を設け、内部には、継続入賞口に入賞した遊技球を検出する球検出器やアッカーモードに入賞した遊技球の数をカウントするための球検出器を設けたりしている。そして、バチンコ遊技機の機種が異なると、機種毎に取付基板のデザインを変えるばかりでなく、継続入賞口、一般入賞口の位置を変えたりしている。

## 【0003】

【発明が解決しようとする課題】 しかしながら、機種が異なる度に取付基板だけでなく、凹室やソレノイドの取付構造などアッカーモード全体を最初から設計することは、新たな設計に要する時間と労力が多大になり、開発業務の大きな負荷になっていた。

【0004】 また、機種毎にアッカーモードを新設計することは、設計開発の負荷が大きくなるばかりでなく、組立工程においても、凹室を組み付けてからソレノイドを取り付けたり、また、他のアッカーモードではソレノイドを取り付けた後からでない凹室を組み付けられないなど作業手順が異なってしまい、作業効率を低下する一因になっている。

【0005】 一方、取付基板だけを新設計して他の部品の共通化を図るとすると、どの機種も表面デザインが異なるだけであって同一の機能でしかないので、遊技に変化を与える難くなり、これにより遊技者に飽きられ易く、遊技の興味を殺滅しかねない。

【0006】 そこで、本発明は、新たに設計開発する際の労力を軽減することができ、組立作業の容易化を図り易く、しかも付加する機能の設計の自由度を狭くすることのない弾球遊技機の変動入賞装置を提供することを目的とする。

## 【0007】

【課題を解決するための手段】 本発明は上記した目的を達成するために提案されたもので、請求項1記載の発明は、球流入開口部が開設され、遊技盤表面に取り付けられる取付基板と、上記球流入開口部に対して開閉可能な状態で取付基板に取り付けられ、球流入開口部を閉じて遊技球を受け入れない第1状態と、開いて遊技球を受け入れ易い第2状態とに変換可能な扉部材と、前面と後面が開放した中空枠状であって、前面開口部が上記球流入開口部と連通して球流入空部を形成する中空部を有し、上記扉部材を開閉駆動する扉部材用駆動源と球流入空部内に流入して入賞した遊技球を検出する球検出器とを周面部分に装着してユニット化した球流入空部形成部材と、該球流入空部形成部材の背面に後面開口部を閉塞す

る状態で取り付けられるカバー部材と、からなり、取付基板の球流入開口部に前面開口部を連通させて球流入空部形成部材を取付基板の後方に止着するとともに、該球流入空部形成部材の背面にカバー部材を止着して球流入空部形成部材の後面開口部を閉塞してなる弾球遊戯機の変動入賞装置である。

【0008】請求項2記載の発明は、請求項1の構成に加えて、前記カバー部材は、球流入空部に臨む面に、装饰部材を備えたことを特徴とする弾球遊戯機の変動入賞装置である。

【0009】請求項3記載の発明は、請求項1または請求項2の構成に加えて、前記球流入空部形成部材は、内部に複数種類の球入賞口を備え、前記カバー部材は、球流入空部に臨む面に、球流入開口部から流入してきた球の流下に規制を加える球流下規制部材を備えたことを特徴とする弾球遊戯機の変動入賞装置である。

【0010】請求項4記載の発明は、請求項3の構成に加えて、前記球流下規制部材は、球を特定の球入賞口に向けて球を案内する球流下方向案内部を備えたことを特徴とする弾球遊戯機の変動入賞装置である。

【0011】請求項5記載の発明は、請求項1から請求項4のいずれかの構成に加えて、前記カバー部材は、球流入空部に臨む面に、球検出器からの信号に基づいて生成される情報を可視表示する情報表示装置を備えたことを特徴とする弾球遊戯機の変動入賞装置である。

【0012】

【発明の実施の形態】以下、本発明の実施の形態を図面に基づいて説明する。図1は代表的な弾球遊戯機であるバチンコ遊戯機の遊戯盤の正面図である。この遊戯盤1の表面にはガイドレール等の区画部材2により区画した遊戯領域3が形成され、この遊戯領域3のほぼ中央に可変表示装置4を、この可変表示装置4の下方に始動口5を、始動口5の下方に変動入賞装置6を配置し、打球発射装置によって弾発した遊戯球が遊戯領域3の上部から障害釘に当って流下方向を変換しながら流下して、流下途中で上記始動口5に入賞すると、この入賞球を検出した球検出器からの信号により可変表示装置4により可変表示ゲームを開始するように構成してある。

【0013】可変表示ゲームは、例えば3桁の識別情報を視認不能な速度で可変表示して、所定時間経過した後に停止した態様が賞状態（例えば、予め設定した777）で停止した場合に大当りとなって大当りゲームに移行する。

【0014】この大当りゲームは、変動入賞装置6の扉部材7を閉じて遊戯球を受け入れない（入賞しない）第1状態から扉部材7を開いて遊戯球を受け入れ易い（入賞し易い）第2状態に変換することにより遊戯者に利益を付与し易い状態（賞球を獲得し易い状態）で行なう遊戯であり、第2状態は所定の時間（例えば2.8秒間）が経過するまでまたは所定数（例えば10個）の遊戯球が入

賞するまでを1ラウンドとし、当該ラウンド中に変動入賞装置6内の継続入賞口（後述）に遊戯球が入賞することを条件として所定ラウンド数（16ラウンド）まで継続することができる。

【0015】上記した可変表示ゲーム及び大当りゲームは、バチンコ遊戯機の裏側に設けた遊戯盤制御装置の制御の下で行なわれる。この遊戯盤制御装置は、図2に示すように、遊戯制御等を行うCPU11及びデータの一時記憶等を行うRAM12を内蔵した役物用IC13と、制御プログラム等を格納しているROM14と、クロック信号を分周してCPU11のリセット割り込みをかける分周回路15と、役物用IC13等に必要な電源を供給する電源回路16と、各種情報信号を受け入れるローパスフィルタ17と、ローパスフィルタ17からの信号をバスBを介して役物用IC13に出力するバッファゲート18と、役物用IC13からの信号をバスBを介して受け取る出力ポート19と、出力ポート19を介して入力される制御信号をドライブして出力するドライバ20と、サウンドジェネレータ21、アンプ22、及びスピーカ23からなり遊技に必要な効果音を生成する音声生成部等によって構成される。

【0016】ローパスフィルタ17には、排出制御装置26、特図1回路スイッチ27、カウントスイッチ28、継続スイッチ29等からの信号が入力されている。また、ドライバ20からは、可変表示装置4の表示制御を行う表示制御装置31、管理装置32との間で情報を送受する外部情報端子33、変動入賞装置6、特図1回路記憶部34、装飾ランプ・LED35、検出結果表示装置86、及び排出制御装置26などに制御信号が出力される。

【0017】次に、変動入賞装置6について説明する。この変動入賞装置6は、図3に示すように、遊戯盤1の表面に取り付けられる取付基板41と、取付基板41に開設された球流入開口部42に対して開閉可能な状態で取付基板41に取り付けられた扉部材7と、前面と後面が開放した中空枠体として構成されて取付基板41の裏側に取り付けられる球流入空部形成部材43と、この球流入空部形成部材43の後面を塞ぐカバー部材44と、上記扉部材7を開閉する扉部材用駆動源としてのソレノイド45と、球流入空部形成部材43内に流入して入賞した遊戯球を検出する球検出器46などから構成されている。

【0018】取付基板41は、例えば、合成樹脂製の板材により構成され、遊戯盤5の表面に対して木ネジ等の固定具により止着される。扉部材7は、横長形状の板片であり、その下端左右にそれぞれ突出形成された回転軸にて開閉自在に取り付けられ、開状態（第1状態）と閉状態（第2状態）とに変換可能となっている。そして、これらの取付基板41及び扉部材7は、バチンコ遊戯機の種類に応じて異なるデザインのものが設けられ

る。

【0019】図4に示すように、球流入空部形成部材43は、カバー部材44とともに凹室47（球流入空部）を形成するものであり、取付基板41の球流入開口部42に対して前面側開口が連通するよう、取付基板41の裏側に後方から止着される。そして、この球流入空部形成部材43の外周面側部（図3の右側部）には上記したソレノイド45を装着している。そして、この球流入空部形成部材43の内周面底部には、大当りゲームを継続する権利が発生する継続入賞口48を左側に、継続入賞口48に入らなかった遊戯球を入賞させる一般入賞口49を右側に、及び凹室47に流入した遊戯球を箇引分ける山状の球誘導部材50をほぼ中央に設けてある。また、球流入空部形成部材43の外周面下部には上記した球検出器46を装着している。この球検出器46は、より詳しくは、継続入賞口48に入賞した遊戯球を検出する継続スイッチ51や変動入賞装置6に入賞した遊戯球をカウントするカウントスイッチ52等により構成されている。即ち、この球流入空部形成部材43は、ハチンコ遊戯機の種類に拘わらず共通な構成を装着してユニット化したものとなっている。

【0020】なお、ソレノイド45及び球検出器46など球流入空部形成部材43に取り付ける部品は、球流入空部形成部材43の前後幅の範囲内に収まる状態で配設している。これにより、取付基板41やカバー部材44が設計変更されても干渉し難くなる。

【0021】カバー部材44は、球流入空部形成部材43の後面側開口を閉塞する部材として構成されており、ハチンコ遊戯機の種類に応じて種々設計変更可能である。本実施形態においては、球流入空部形成部材43の後面側開口とはほぼ同一形状である方形状の板材であり、その四隅には球流入空部形成部材43との取付部53が設けられている。そして、このカバー部材44は、ビス等の止着具により、球流入空部形成部材43の背面に着脱可能に止着されて凹室47を形成する（図4参照）。

【0022】そして、以上の構成を有する変動入賞装置6では、ハチンコ遊戯機の種類に拘わらず共通な構成をユニット化した球流入空部形成部材43を用い、更に、この球流入空部形成部材43を取付基板41とカバー部材44のそれぞれに着脱可能に止着しているので、この球流入空部形成部材43を共通部品とすることができます。また、廃棄されたハチンコ遊戯機からこの球流入空部形成部材43を取り外し、他のハチンコ遊戯機に使用することができる。従って、部品を共通化したことにより、量産が容易にできるとともに耐用期間未経過の部品については再利用できるので、ハチンコ遊戯機のコストダウンを図れる。

【0023】ところで、上記した実施形態（第1実施形態）におけるカバー部材44は単なる方形状の板材により構成されていたが、このカバー部材44に関しては種

々の機能を付加することが可能である。以下、カバー部材44の態様について説明する。

【0024】図5及び図6は、カバー部材の第2実施形態を説明する図で、図5は分解斜視図、図6は組付状態を説明する斜視図である。この第2実施形態では、カバー部材61が装飾部材を備えている点に特徴を有している。

【0025】具体的には、図5に示すように、このカバー部材61は半透明樹脂により構成されており、球流入空部形成部材43との取付部62が四隅に形成された乳白色の方形状樹脂板となっている。このカバー部材61の表面は、装飾部材として機能するシール63が貼着される装飾面となっており、背面には、ランプ・LED基板64を取り付けるためのボス65が後方に向けて突設している。そして、シール63には、文字や图形等の透光性の意匠が描かれている。本実施形態においては、

「LUCKY」や「！」といったメッセージや、継続入賞口48の位置を明示する「V」マークが打ち抜かれている。なお、装飾部材は、このようなシール63に限定されるものではなく、着色により装飾面に意匠を直接形成してもよく、装飾面に凹凸を形成してもよい。

【0026】ランプ・LED基板64は、シール63に設けられた透光性の意匠を光輝させるための光源を支持するための基板で、カバー部材61の背面に後方から取り付けられる。そして、本実施形態におけるランプ・LED基板64は、横長方形状のプリント配線基板となっている。そして、このランプ・LED基板64の四隅には止めネジ66を押通するためのネジ孔67が開設されている。また、表面上段には複数（図5では5個）のLED68が横方向に並んで取り付けられ、表面下段には一对のランプ69が取り付けられている。

【0027】図6に示すように、背面にランプ・LED基板64を取り付けたカバー部材61は、上記した装飾面が球流入空部形成部材43の空部に臨むように後面側開口に止着される。そして、ハチンコ遊戯機で大当りとなった場合には、大当りゲームの実行にあわせてLED68やランプ69の発光を制御して遊技の興奮を高める。

【0028】このように、この構成においては、球流入空部形成部材43に着脱可能とされたカバー部材61に装飾機能を付与したので、このカバー部材61を交換するだけで、変動入賞装置6の装飾態様を変更することができる。そして、装飾態様に応じて複数種のカバー部材61を予め用意しておき、工場での組付時にカバー部材61を選択することにより、多様な装飾態様に対応することができる。さらに、本実施形態の如く、装飾部材をシール63により構成することにより、複数種のシール63を準備しておくことで多様な装飾態様に容易に対応することができる。また、シール63は嵩が少ないことで、在庫を保管するスペースが少なくてよい。従って、ハチンコ遊戯機や遊技者の要望に基づき細かな対応

を比較的容易に且つ低成本で行うことができる。一方、パチンコ遊技店としては、装飾様に独自性を付与する等ができる、他のパチンコ遊技店との差別化を比較的容易に且つ低成本で実現することができる。また、遊技者としては、1つの機種が多様な装飾様を有しているので、この装飾様に基づく新たな興味が得られる。

【0029】図7及び図8は、カバー部材の第3実施形態を説明する図で、図7は分解斜視図、図8は組付状態を説明する斜視図である。この第3実施形態では、取付基板41の球流入開口部42から流入した遊技球の流下に規制を加える球流下規制部材を備えている点に特徴を有している。

【0030】具体的には、図7に示すように、このカバー部材71は、球流下規制部材72と略同型状での球流下規制部材72が挿通可能な開口73をほぼ中央に備え、四隅に球流入空部形成部材43との取付部74が形成された方形状板材であり、その背面上には流下方向規制機構75のソレノイド77が装着される規制機構取付部76が後方に設置している。

【0031】この流下方向規制機構75は、球流下規制部材72と、この球流下規制部材72にフランジが接続されたソレノイド77とから構成されている。そして、この流下方向規制機構75の球流下規制部材72は、起立壁が左端に設けられるとともに右方向に下り傾斜した案内面78（球流下方向案内部）を上部に備えた模状部材であり、図8に示すように、カバー部材71に設けられた開口73から球流入空部形成部材43とカバー部材71とにより形成される凹室79に臨むように取り付けられる。取り付けられた球流下規制部材72は、ソレノイド77の励磁状態に応じて前後方向に移動し、開口73を通じて凹室79（球流入空部）内に出没する。突出時にあっては、この球流下規制部材72は球誘導部材50の上方に位置し、凹室79内に流入した遊技球を右方向、即ち、一般入賞口49へ向けて案内する。

【0032】なお、上記した実施形態における球流下規制部材72はソレノイド77により電気的に凹室79内の出没制御が可能なものを例示したが、例えば、球流下規制部材72をカバー部材71の前面（即ち、凹室79に臨む面）に固定的に設けてもよい。

【0033】このように、この構成においては、カバー部材71の球流入空部（凹室79）に臨む面に、取付基板41の球流入開口部42から流入してきた遊技球の流下に規制を加える球流下規制部材72を設けたので、球流入空部内における遊技球の移動に変化を与えることができ、球流入空部内における遊技球の移動に際し、球流入空部内の滞留時間を延長させたり或は移動経路に不規則性を付与したりすることができ、遊技性を高めることができる。特に、本実施形態のように模状の球流下規制部材72を出没可能に設けた構成においては、遊技性をより一層高めることができる。

【0034】さらに、模状の球流下規制部材72の突出により、遊技球を特定の球入賞口（一般入賞口49）に向けて案内するよう構成したので、球流入空部内に設けられた複数の入賞口の各入賞口毎の入賞確率を変化させることができ、遊技に変化を与えることができる。

【0035】図9及び図10は、カバー部材の第4実施形態を説明する図で、図9は分解斜視図、図10は組付状態を説明する斜視図である。この第4実施形態では、球検出器46からの信号に基づいて生成される情報を可視表示する情報表示装置を備えた点に特徴を有している。

【0036】具体的には、図9に示すように、このカバー部材81は、例えば、球流入空部形成部材43との取付部82が四隅に形成された方形状樹脂板により構成されている。このカバー部材81の下段右寄りには、大当たりゲームのラウンド数表示用の開口83とカウント数表示用の開口84とが横に並んで開設され、各開口83、84の上縁には「ラウンド」、「カウント」の文字が印刷等により形成されている。また、下段左寄りには、開口や半透明樹脂等により透光領域が形成され、この透光領域を前方から覆うようにシール85が貼着されている。本実施形態においては、このシール85には、継続入賞口48の位置を示明する透光性の「V」マークが形成されている。また、このカバー部材81の背面上には、検出結果表示装置86を取り付けるためのボス87が後方に向けて立設している。

【0037】検出結果表示装置86は、球検出器46からの信号に基づいて生成される情報を可視表示する情報表示装置として機能するもので、ランプ・LED基板88、このランプ・LED基板88の表面に取り付けられる数字表示器89及びランプ90等から構成されている。ランプ・LED基板88は、横長形状のプリント配線基板等により構成され、その四隅には止めネジを挿通するためのネジ孔91が開設されている。数字表示器89は、数字表示が可能な表示器、例えばセグメントのLED（発光ダイオード）等が用いられており、ラウンド数表示器92とカウント数表示器93の2つが設けられている。なお、この数字表示器89については、液晶表示器等、情報表示が可能なものであればどのような構成のものでもよい。そして、各表示器92、93は、図10に示すように、ランプ・LED基板88の下段右寄りにて表示面がカバー部材81の両開口83、84に臨むように、横に並んで取り付けられている。また、ランプ90は、下段左寄りであってシール85の後方に配設されている。

【0038】そして、ラウンド数表示器92は大当たりゲームのラウンド数を表示し、カウント数表示器93は変動入賞装置に入賞した遊技球の数を表示する。即ち、各表示器92、93は、球検出器46である継続スイッチ51やカウントスイッチ52からの信号に基づいて生成

されるラウンド数情報や入賞球数情報を可視表示する。また、ランプ90は継続スイッチ51からの信号に応じて発光が制御され、継続スイッチ51への入賞時に点灯する。

【0039】このように、本実施形態においては、カバ一部材81の球流入空部（凹室94）に臨む面に、変動入賞装置6に入賞した遊技球を検出する球検出器46（継続スイッチ51、カウントスイッチ52）からの信号に基づいて生成される情報（ラウンド数情報、入賞球数情報）を可視表示する情報表示装置（ラウンド数表示器92、カウント数表示器93）を備えているので、大当り遊技における継続入賞口48への入賞状態やラウンド数等が変動入賞装置6にて視認可能となり、大当りゲームで最も気になる変動入賞装置6への遊技球の入賞の様子を見つつ、視線を他に移さずに大当りゲームの状態を認識できる。従って、遊技者は大当りゲームに集中することができる。さらに、本実施形態では、変動入賞装置6にて継続入賞口48への入賞状態やラウンド数等の情報を表示しているので、この大当りゲーム期間中においては可変表示装置4に他の情報を表示させることができ。従って、遊技者の興味を一層高めることができる。

#### 【0040】

【発明の効果】以上説明したように本発明によれば、次の効果を奏す。即ち、請求項1記載の発明によれば、球流入開口部が開設され、遊技盤表面に取り付けられる取付基板と、上記球流入開口部に対して開閉可能な状態で取付基板に取り付けられ、球流入開口部を閉じて遊技球を受け入れない第1状態と、開いて遊技球を受け入れ易い第2状態とに変換可能な扉部材と、前面と後面が開放した中空枠状であって、前面開口部が上記球流入開口部と連通して球流入空部を形成する中空部を有し、上記扉部材を開閉駆動する扉部材用駆動源と球流入空部内に流入して入賞した遊技球を検出する球検出器とを周面部分に装着してユニット化した球流入空部形成部材と、該球流入空部形成部材の背面に後面開口部を閉塞する状態で取り付けられるカバ一部材と、からなり、取付基板の球流入開口部に前面開口部を連通させて球流入空部形成部材を取付基板の後方に止着するとともに、該球流入空部形成部材の背面にカバ一部材を止着して球流入空部形成部材の後面開口部を閉塞したので、球流入空部形成部材を共通部品とすることができる。また、廃棄処分された遊技機から球流入空部形成部材を取り外し、他の遊技機に流用することができる。従って、部品を共通化したことにより、量産が容易にできるとともに耐用期間未経過の部品については再利用できるので、遊技機のコストダウンを図れる。

【0041】また、請求項2記載の発明によれば、前記カバ一部材は、球流入空部に臨む面に、装飾部材を備えたので、カバ一部材を交換するだけで、変動入賞装置の

装飾様様を変更することができる。そして、装飾様様に応じて複数種のカバ一部材を予め用意しておき、工場での組付時にカバ一部材を選択することにより、多様な装飾様様に対応することができる。従って、遊技店や遊技者の要望に基づきめ細かな対応を比較的容易に且つ低成本で行うことができる。一方、遊技店としては、装飾様様に独自性を付与する等ができる、他遊技店との差別化を比較的容易に且つ低成本で実現することができる。また、遊技者としては、1つの機種が多様な装飾様様を有しているので、この装飾様様に基づく新たな興味が得られる。

【0042】また、請求項3記載の発明によれば、前記球流入空部形成部材は、内部に複数種類の球入賞口を備え、前記カバ一部材は、球流入空部に臨む面に、球流入開口部から流入してきた球の流下に規制を加える球流下規制部材を備えたので、球流入空部内における遊技球の移動に変化を与えることができ、球流入空部内における遊技球の移動に關し、球流入空部内の滞留時間を延長させたりは移動経路に不規則性を付与したりすることができる。遊技性を高めることができる。

【0043】また、請求項4記載の発明によれば、前記球流下規制部材は、球を特定の球入賞口に向けて球を案内する球流下方向案内部を備えたので、球流入空部内に設けられた複数の入賞口の各入賞口毎の入賞確率を変化させることができ、遊技に変化を与えることができる。

【0044】また、請求項5記載の発明によれば、前記カバ一部材は、球流入空部に臨む面に、球検出器からの信号に基づいて生成される情報を可視表示する情報表示装置を備えたので、大当り遊技における特定の入賞口への入賞状態やラウンド数等が変動入賞装置にて視認可能となり、大当りゲームで最も気になる変動入賞装置への遊技球の入賞の様子を見つつ、視線を他に移さずに大当りゲームの状態を認識できる。従って、遊技者は大当りゲームに集中することができる。

#### 【図面の簡単な説明】

【図1】パチンコ遊技機の遊技盤の正面図である。

【図2】遊技盤制御装置の構成を説明するブロック図である。

【図3】変動入賞装置の構成を説明する分解斜視図である。

【図4】球流入空部形成部材とカバ一部材との組付状態を説明する斜視図である。

【図5】カバ一部材の第2実施形態を説明する分解斜視図である。

【図6】同じくカバ一部材の組付状態を説明する斜視図である。

【図7】カバ一部材の第3実施形態を説明する分解斜視図である。

【図8】同じくカバ一部材の組付状態を説明する斜視図である。

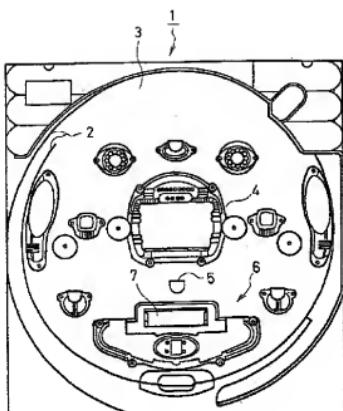
【図9】カバー部材の第4実施形態を説明する分解斜視図である。

【図10】同じくカバー部材の組付状態を説明する斜視図である。

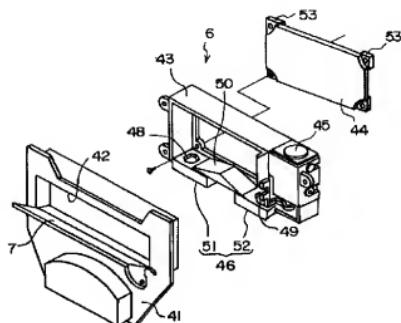
【符号の説明】

1 遊技盤	4 7 凹室
2 区画部材	4 8 繼続入賞口
3 遊技領域	4 9 一般入賞口
4 可変表示装置	5 0 球誘導部材
5 始動口	5 1 繼続スイッチ
6 変動入賞装置	5 2 カウントスイッチ
7 扉部材	5 3 取付部
1 1 C P U	6 1 カバー部材
1 2 R A M	6 2 取付部
1 3 役物用 I C	6 3 シール
1 4 R O M	6 4 ランプ・L E D基板
1 5 分周回路	6 5 ボス
1 6 電源回路	6 6 止めネジ
1 7 ローバスフィルタ	6 7 ネジ孔
1 8 バッファゲート	6 8 L E D
1 9 出力ポート	6 9 ランプ
2 0 ドライバ	7 1 カバー部材
2 1 サウンドジェネレータ	7 2 球流下規制部材
2 2 アンプ	7 3 開口
2 3 スピーカ	7 4 取付部
2 6 排出制御装置	7 5 流下方向規制機構
2 7 特図始動スイッチ	7 6 規制機構取付部
2 8 カウントスイッチ	7 7 ソレノイド
2 9 繼続スイッチ	7 8 案内面
3 1 表示制御装置	7 9 凹室
3 2 管理装置	8 1 カバー部材
3 3 外部情報端子	8 2 取付部
3 4 特図始動記憶表示器	8 3 ラウンド数表示用の開口
3 5 装飾ランプ・L E D	8 4 カウント数表示用の開口
4 1 取付基板	8 5 シール
4 2 球流入開口部	8 6 検出結果表示装置
4 3 球流入空部形成部材	8 7 ボス
4 4 カバー部材	8 8 ランプ・L E D基板
4 5 ソレノイド	8 9 数字表示器
4 6 球検出器	9 0 ランプ
	9 1 ネジ孔
	9 2 ラウンド数表示器
	9 3 カウント数表示器
	9 4 凹室

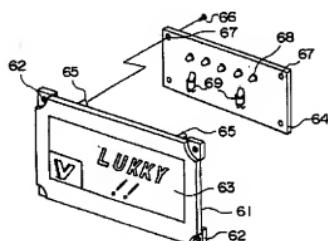
【図1】



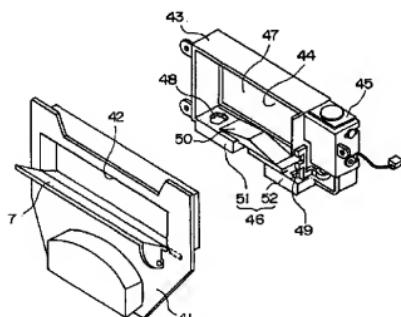
【図3】



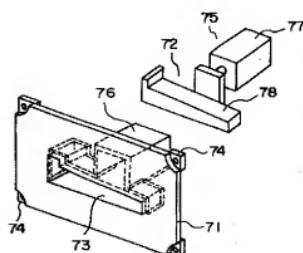
【図5】



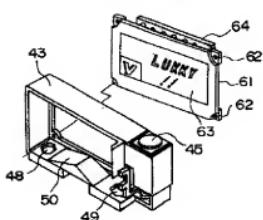
【図4】



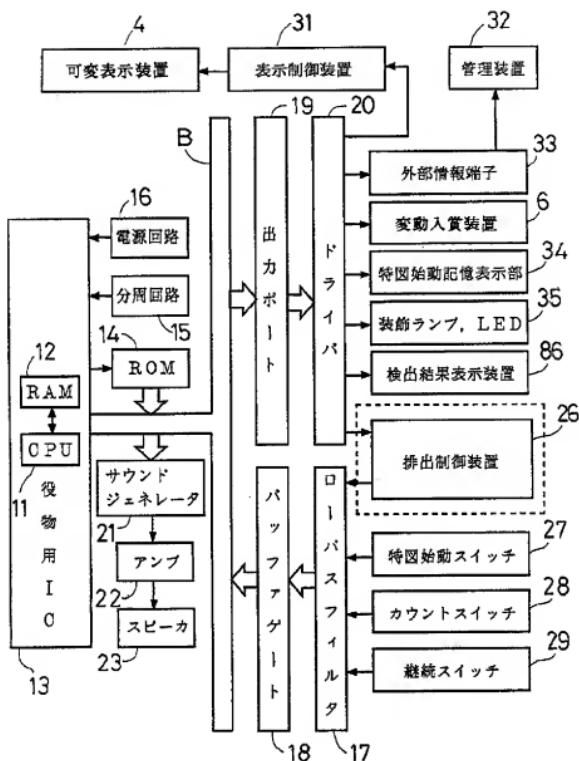
【図7】



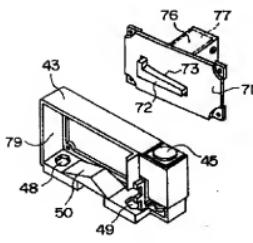
【図6】



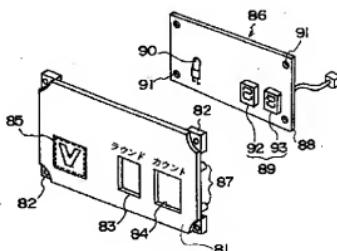
【図2】



【図8】



【図9】



【図10】

